

Attachment A

**Table 3
WATER QUALITY OBJECTIVES FOR FISH AND WILDLIFE BENEFICIAL USES**

COMPLIANCE LOCATION	INTERAGENCY STATION NUMBER(RKI 1[1])	PARAMETER	DESCRIPTION (UNIT) [2]	WATER YEAR TYPE [3]	TIME PERIOD	VALUE
DISSOLVED OXYGEN						
San Joaquin River between Turner Cut & Stockton	(RSAN050-RSAN061)	Dissolved Oxygen (DO)	Minimum DO (mg/l)	All	Sep-Nov	6.0 [4]
<u>SALMON AND STEELHEAD PROTECTION</u>						
			narrative			Water quality conditions <u>in the Delta</u> shall be maintained, together with <u>water quality conditions and other measures</u> in the watershed, sufficient to achieve a doubling of natural production of <u>each run of chinook salmon and steelhead on each salmonid-producing upstream tributary</u> from the average production of 1967-1991, consistent with the provisions of State and federal law.
SAN JOAQUIN RIVER SALINITY						
San Joaquin River at and between Jersey Point and Prisoners Point [5]	D-15 (RSAN018) -and- D-29 (RSAN038)	Electrical Conductivity (EC)	Maximum 14-day running average of mean daily EC(mmhos/cm)	W,AN,BN,D	Apr-May	0.44 [6]
EASTERN SUISUN MARSH SALINITY						
Sacramento River at Collinsville	C-2 (RSAC081)	Electrical Conductivity (EC)	Maximum monthly average of both daily high tide EC values (mmhos/cm), or demonstrate that equivalent or better protection will be provided at the location	All	Oct	19.0
-and- Montezuma Slough at National Steel	S-64 (SLMZU25)				Nov-Dec	15.5
-and- Montezuma Slough near Beldon Landing	S-49 (SLMZU11)				Jan	12.5
					Feb-Mar	8.0
				Apr-May	11.0	
WESTERN SUISUN MARSH SALINITY						
Chadbourne Slough at Sunrise Duck Club	S-21 [7] (SLCBN1)	Electrical Conductivity (EC)	Maximum monthly average of both daily high tide EC values (mmhos/cm), or demonstrate that equivalent or better protection will be provided at the location	All but deficiency period	Oct	19.0
-and- Suisun Slough, 300 feet south of Volanti Slough	S-42 [8] (SLSUS12)				Nov	16.5
-and- Cordelia Slough at Ibis Club	S-97 [8] (SLCRD06)				Dec	15.5
-and- Goodyear Slough at Morrow Island Clubhouse	S-35 [8] (SLGYR03)				Jan	12.5
Water supply intakes for waterfowl management areas on Van Sickle and Chipps islands	No locations specified			Deficiency period [9]	Feb-Mar	8.0
					Apr-May	11.0
					Oct	19.0
					Nov	16.5
					Dec-Mar	15.6
					Apr	14.0
					May	12.5
BRACKISH TIDAL MARSHES OF SUISUN BAY						
			narrative			[10]

Table 3 (continued)
WATER QUALITY OBJECTIVES FOR FISH AND WILDLIFE BENEFICIAL USES

COMPLIANCE LOCATION	INTERAGENCY STATION NUMBER(RKI 1[])	PARAMETER	DESCRIPTION (UNIT) [2]	WATER YEAR TYPE [3]	TIME PERIOD	VALUE
DELTA OUTFLOW						
		Net Delta Outflow Index (NDOI) (11)	Minimum monthly average (12) NDOI (cfs)	All	Jan	4,500 [13]
				All	Feb-Jun	[14]
				W,AN	Jul	8,000
				BN		6,500
				D		5,000
				C		4,000
				W,AN,BN	Aug	4,000
				D		3,500
				C		3,000
				All	Sep	3,000
				W,AN,BN,D	Oct	4,000
				C		3,000
				W,AN,BN,D	Nov-Dec	4,500
				C		3,500
RIVER FLOWS						
Sacramento River at Rio Vista	D-24 (RSAC101)	Flow rate	Minimum monthly average [15] flow rate (cfs)	All	Sep	3,000
				W,AN,BN,D	Oct	4,000
				C		3,000
				W,AN,BN,D	Nov-Dec	4,500
				C		3,500
San Joaquin River at Airport Way Bridge, Vernalis	C-10 (RSAN112)	Flow rate	Minimum monthly average [16] flow rate (cfs) [17]	W,AN	Feb	3,240
				BN,D		2,280
				C		1,500
				W,AN	Mar	5,000
				BN		3,240
				D		2,280
				C		1,500
				W	Apr 1 - 14	7,000
				AN,BN,D		5,000
				C		2,000
				W	May 16 - 31	7,000
				AN,BN		5,000
				D		3,240
				C		2,000
				W,AN	June	5,000
				BN		3,240
				D		2,280
				C		1,500
				W,AN	Feb-Apr 14	2,130 or 3,420
				BN,D	and	1,420 or 2,280
				C	May 16 - Jun	710 or 1,140
				W	Apr 15-	7,330 or 8,620
				AN	May 15 [18]	5,730 or 7,020
				BN		4,620 or 5,480
				D		4,020 or 4,880
				C		3,110 or 3,540
				All	Oct	1,000 [19]
EXPORT LIMITS						
		Combined export rate [20]	Maximum 3-day running average (cfs)	All	March 15 - 31	200% Vernalis flow [22]
					April 1 - 14	100% Vernalis flow [22]
					Apr 15-	[22]
					May 15 [21]	
			Maximum percent of Delta inflow diverted [23] [24]		May 16 - 31	100% Vernalis flow [22]
					June 1 - 15	200% Vernalis flow [22]
				All	Feb-Jun	35% Delta inflow [25]
				All	Jul-Jan	65% Delta inflow

DELTA CROSS CHANNEL GATES CLOSURE

Delta Cross Channel at Walnut Grove	--	Closure of gates	Closed gates	All	Nov-Oct-Jan Feb-May 20 May 21- Jun 15	[26] ---- [27]
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Table 3 Footnotes:

- [1] River Kilometer Index station number.
- [2] Determination of compliance with an objective expressed as a running average begins on the last day of the averaging period. If the objective is not met on the last day of the averaging period, all days in the averaging period are considered out of compliance.
- [3] The Sacramento Valley 40-30-30 Water Year Hydrologic Classification Index (see Figure II-1) applies unless otherwise specified.
- [4] If it is infeasible for a waste discharger to meet this objective immediately, a time extension or schedule of compliance may be granted, but this objective must be met no later than September 1, 2005.
- [5] Compliance will be determined at Jersey Point (station D15) and Prisoners Point (station D29).
- [6] This standard does not apply in May when the best available May estimate of the Sacramento River Index for the water year is less than 8.1 MAF at the 90% exceedence level. [Note: The Sacramento River Index refers to the sum of the unimpaired runoff in the water year as published in the DWR Bulletin 120 for the following locations: Sacramento River above Bend Bridge, near Red Bluff; Feather River, total unimpaired inflow to Oroville Reservoir; Yuba River at Smartville; and American River, total unimpaired inflow to Folsom Reservoir.]
- [7] The effective date for objectives for this station is October 1, 1995.
- [8] The effective date for objectives for this station is October 1, 1997.
- [9] A deficiency period is: (1) the second consecutive dry water year following a critical year; (2) a dry water year following a year in which the Sacramento River Index (described in footnote 6) was less than 11.35; or (3) a critical water year following a dry or critical water year.
- [10] Water quality conditions sufficient to support a natural gradient in species composition and wildlife habitat characteristic of a brackish marsh throughout all elevations of the tidal marshes bordering Suisun Bay shall be maintained. Water quality conditions shall be maintained so that none of the following occurs: (a) loss of diversity; (b) conversion of brackish marsh to salt marsh; (c) for animals, decreased population abundance of those species vulnerable to increased mortality and loss of habitat from increased water salinity; or (d) for plants, significant reduction in stature or percent cover from increased water or soil salinity or other water quality parameters.
- [11] Net Delta Outflow Index (NDOI) is defined in Figure II-3.
- [12] For the May-January objectives, if the value is less than or equal to 5,000 cfs, the 7-day running average shall not be less than 1,000 cfs below the value; if the value is greater than 5,000 cfs, the 7-day running average shall not be less than 80% of the value.
- [13] The objective is increased to 6,000 cfs if the best available estimate of the Eight River Index for December is greater than 800 TAF. [Note: The Eight River Index refers to the sum of the unimpaired runoff as published in the DWR Bulletin 120 for the following locations: Sacramento River flow at Bend Bridge, near Red Bluff; Feather River, total inflow to Oroville Reservoir; Yuba River flow at Smartville; American River, total inflow to Folsom Reservoir; Stanislaus River, total inflow to New Melones Reservoir; Tuolumne River, total inflow to Don Pedro Reservoir; Merced River, total inflow to Exchequer Reservoir; and San Joaquin River, total inflow to Millerton Lake.]
- [14] The minimum daily Delta outflow shall be 7,100 cfs for this period, calculated as a 3-day running average. This requirement is also met if either the daily average or 14-day running average EC at the confluence of the Sacramento and the San Joaquin rivers is less than or equal to 2.64 mmhos/cm (Collinsville station C2). If the best available estimate of the Eight River Index (described in footnote 13) for January is more than 900 TAF, the daily average or 14-day running average EC at station C2 shall be less than or equal to 2.64 mmhos/cm for at least one day between February 1 and February 14; however, if the best available estimate of the Eight River Index for January is between 650 TAF and 900 TAF, the operations group established under the Framework Agreement shall decide whether this requirement will apply, with any disputes resolved by the CALFED policy group. If the best available estimate of the Eight River Index for February is less than 500 TAF, the standard may be

further relaxed in March upon the recommendation of the operations group established under the Framework Agreement, with any disputes resolved by the CALFED policy group. The standard does not apply in May and June if the best available May estimate of the Sacramento River Index (described in footnote 6) for the water year is less than 8.1 MAF at the 90% exceedence level. Under this circumstance, a minimum 14-day running average flow of 4,000 cfs is required in May and June. Additional Delta outflow objectives are contained in Table II-4.

- [15] The 7-day running average shall not be less than 1,000 cfs below the monthly objective.
- [16] Partial months are averaged for that period. For example, the flow rate for April 1-14 would be averaged over 14 days. The 7-day running average shall not be less than 20% below the flow rate objective, with the exception of the April 15-May 15 pulse flow period when this restriction does not apply.
- [17] The water year classification will be established using the best available estimate of the 60-20-20 San Joaquin Valley Water Year Hydrologic Classification (see Figure II-2) at the 75% exceedence level. The higher flow objective applies when the 2-ppt isohaline (measured as 2.64 mmhos/cm surface salinity) is required to be at or west of Chippis Island.
- [18] This time period may be varied based on real-time monitoring. One pulse, or two separate pulses of combined duration equal to the single pulse, should be scheduled to coincide with fish migration in San Joaquin River tributaries and the Delta. The operations group established under the Framework Agreement will determine the time period for this 31-day flow requirement.
- [19] Plus up to an additional 28 TAF pulse/attraction flow during all water year types. The amount of additional water will be limited to that amount necessary to provide a monthly average flow of 2,000 cfs. The additional 28 TAF is not required in a critical year following a critical year. The pulse flow will be scheduled by the operations group established under the Framework Agreement.
- [20] Combined export rate for this objective is defined as the Clifton Court Forebay inflow rate (minus actual Byron-Bethany Irrigation District diversions from Clifton Court Forebay) and the export rate of the Tracy pumping plant.
- [21] This time period may be varied based on real-time monitoring and will coincide with the San Joaquin River pulse flow described in footnote 18. The operations group established under the Framework Agreement will determine the time period for this 31-day export limit.
- [22] Maximum export rate from April 15 to May 15 is 1,500 cfs, 2,250 cfs, or 3,000 cfs, as determined by the San Joaquin River Technical and Management Committees and presented to the executive director of the SWRCB. If the executive director does not object to the export limits within 10 days, the export limits will go into effect. Maximum export rate is 1,500 cfs or 100% of 3-day running average of San Joaquin River flow at Vernalis, whichever is greater. The March 15 – June 15 export restrictions do not supercede the export restriction of 35% of Delta inflow. The more restrictive of these two objectives applies from March 15 to June 15. Variations to this maximum export rate are authorized if agreed to by the operations group established under the Framework Agreement. This flexibility is intended to result in no net water supply cost annually within the limits of the water quality and operational requirements of this plan. Variations may result from recommendations of agencies for protection of fish resources, including actions taken pursuant to the State and federal Endangered Species Act. The CALFED policy group will resolve disputes within the operations group. Any agreement on variations will be effective immediately and will be presented to the Executive Director of the SWRCB. If the Executive Director does not object to the variations within 10 days, the variations will remain in effect.
- [23] Percent of Delta inflow diverted is defined in Figure II-3. For the calculation of maximum percent Delta inflow diverted, the export rate is a 3-day running average and the Delta inflow is a 14-day running average, except when the CVP or the SWP is making storage withdrawals for export, in which case both the export rate and the Delta inflow are 3-day running averages.
- [24] The percent Delta inflow diverted values can be varied either up or down. Variations are authorized subject to the process described in footnote 22.
- [25] If the best available estimate of the Eight River Index (described in footnote 13) for January is less than or equal to 1.0 MAF, the export limit for February is 45% of Delta inflow. If the best available estimate of the Eight River Index for January is greater than 1.5 MAF, the February export limit is 35% of Delta inflow. If the best available estimate of the Eight River Index for January is between 1.0 MAF and 1.5 MAF, the export limit for February will be set by the operations group established under the Framework Agreement within the range of 35% to 45%. The CALFED policy group will resolve disputes within the operations group.
- [26] For the ~~November~~October-January period, close Delta Cross Channel gates for a total of 45-60 days. Days when the gates are closed for flood control or export water quality purposes shall not be counted against the 60 day maximum. The operations group established under the Framework Agreement will determine the timing and duration of the gate closure. When the gates are closed for fish protection, the operations group will reduce exports or increase inflows as needed to prevent adverse water quality impacts.

[27] For the May 21-June 15 period, close Delta Cross Channel gates for a total of 14 days. The operations group established under the Framework Agreement will determine the timing and duration of the gate closure.

NOTE: A new table should be added as a footnote to the narrative salmon and steelhead protection objective containing numeric doubling objectives for each salmonid run in each salmonid-producing stream.

FOOTNOTE 14 FOR TABLE 3

TABLE A																	
Number of Days When Maximum Daily Average Electrical Conductivity of 2.64 mmhos/cm Must Be Maintained at Specified Location ^[a]																	
PMI ^[b] (TAF)	Chippis Island					PMI ^[b] (TAF)	Port Chicago					PMI ^[b] (TAF)	Port Chicago				
	(Chippis Island Station D10)						(Port Chicago Station C14) ^[d]						(Port Chicago Station C14)^[d]				
	FEB	MAR	APR	MAY	JUN		FEB	MAR	APR	MAY	JUN		FEB	MAR	APR	MAY	JUN
< 500	0	0	0	0	0	0	0	0	0	0	0	5250	27	29	25	26	6
750	0	0	0	0	0	250	1	0	0	0	0	5500	27	29	26	28	9
1000	28 ^[c]	12	2	0	0	500	4	1	0	0	0	5750	27	29	27	28	13
1250	28	31	6	0	0	750	8	2	0	0	0	6000	27	29	27	29	16
1500	28	31	13	0	0	1000	12	4	0	0	0	6250	27	30	27	29	19
1750	28	31	20	0	0	1250	15	6	1	0	0	6500	27	30	28	30	22
2000	28	31	25	1	0	1500	18	9	1	0	0	6750	27	30	28	30	24
2250	28	31	27	3	0	1750	20	12	2	0	0	7000	27	30	28	30	26
2500	28	31	29	11	1	2000	21	15	4	0	0	7250	27	30	28	30	27
2750	28	31	29	20	2	2250	22	17	5	1	0	7500	27	30	29	30	28
3000	28	31	30	27	4	2500	23	19	8	1	0	7750	27	30	29	31	28
3250	28	31	30	29	8	2750	24	21	10	2	0	8000	27	30	29	31	29
3500	28	31	30	30	13	3000	25	23	12	4	0	8250	28	30	29	31	29
3750	28	31	30	31	18	3250	25	24	14	6	0	8500	28	30	29	31	29
4000	28	31	30	31	23	3500	25	25	16	9	0	8750	28	30	29	31	30
4250	28	31	30	31	25	3750	26	26	18	12	0	9000	28	30	29	31	30
4500	28	31	30	31	27	4000	26	27	20	15	0	9250	28	30	29	31	30
4750	28	31	30	31	28	4250	26	27	21	18	1	9500	28	31	29	31	30
5000	28	31	30	31	29	4500	26	28	23	21	2	9750	28	31	29	31	30
5250	28	31	30	31	29	4750	27	28	24	23	3	10000	28	31	30	31	30
≤ 5500	28	31	30	31	30	5000	27	28	25	25	4	>10000	28	31	30	31	30

- [a] The requirement for number of days the maximum daily average EC (EC) of 2.64 mmhos per centimeter (mmhos/cm) must be maintained at Chippis Island and Port Chicago can also be met with maximum 14-day running average EC of 2.64 mmhos/cm, or 3-day running average NDOIs of 11,400 cfs and 29,200 cfs, respectively. If salinity/flow objectives are met for a greater number of days than the requirements for any month, the excess days shall be applied to meeting the requirements for the following month. The number of days for values of the PMI between those specified in this table shall be determined by linear interpolation.
- [b] PMI is the best available estimate of the previous month's Eight River Index. (Refer to Footnote 13 for Table 3 for a description of the Eight River Index.)
- [c] When the PMI is between 800 TAF and 1000 TAF, the number of days the maximum daily average EC of 2.64 mmhos/cm (or maximum 14-day running average EC of 2.64 mmhos/cm, or 3-day running average NDOI of 11,400 cfs) must be maintained at Chippis Island in February is determined by linear interpolation between 0 and 28 days.

- [d] This standard applies in the April through June period only ~~in months~~ when the average EC at Port Chicago during the 14 days immediately prior to the first day of the month is less than or equal to 2.64 mmhos/cm.

NOTE: Table A should be adjusted so that the number of days when maximum daily average electrical conductivity of 2.64 mmhos/cm must be maintained at the specified location is equal to the number of days that X2 would have occurred at these locations assuming an average 1956 - 1968 Level of Development